iSWAP with multiplexed readout in 10 lines of QUA code

SC Qubits

"We were extremely surprised by the **flexibility** that OPX offers and by how much easier it makes our experiments. Moreover, OPX provides **extreme speed-ups**. No more frustration due to long waiting times for unwanted results!"

Prof. Tse-Ming Chen
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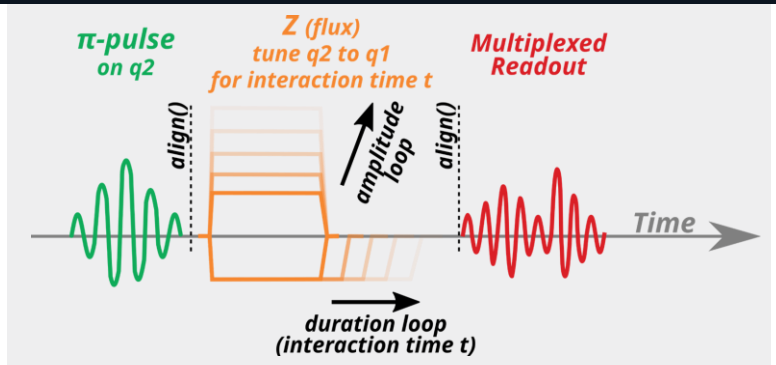

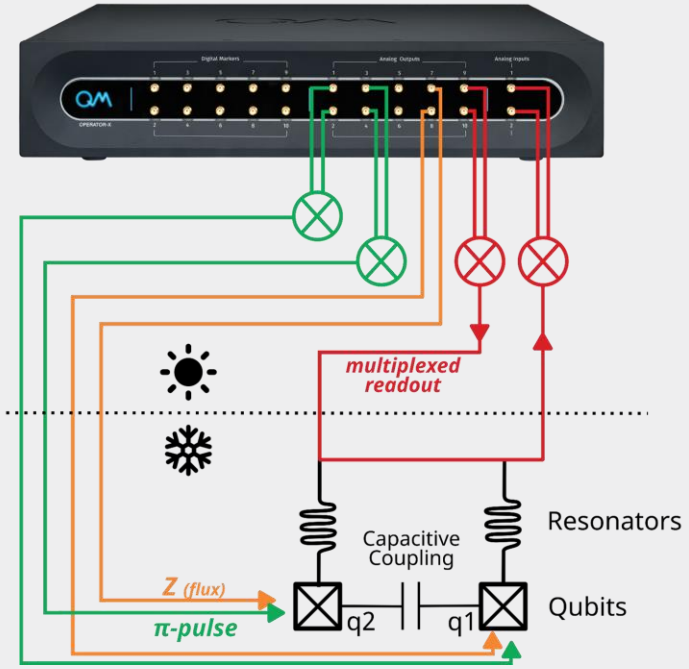


```
with for_(n, 0, n < n_avg, n + 1): # averaging loop
    with for_ t in ts:             # duration loop (interaction time)
        with for_ a in amps:       # amplitude loop (flux)
            play('x180', 'q2_xy') # iSWAP (pi + Z tuning)
            align()
            play('flux_pulse' * amp(a), 'q2_z', duration=t)
            align()
            multiplexed_readout(I, Q, reson=[1, 2], weights="rotated_")
            wait(cooldown_time * u.ns)  # reset for next shot
```

QUA

The **OPX** orchestrates the π-pulse and the flux tuning on *qubit 2* through resonance with *qubit 1*. Multiplexed readout reveals excitation oscillation, signature of the induced SWAP dynamics.